UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,108	02/25/2004	Paul Fernand Wilms	SVL920030134US1	8791

45727 7590 03/09/2007

IP AUTHORITY, LLC
RAMRAJ SOUNDARARAJAN
9435 LORTON MARKET STREET #801
LORTON, VA 22079

EXAMINER	
SAEED, USMAAN	
ART UNIT	**PAPER NUMBER**
2166	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/785,108	WILMS ET AL.	
	Examiner	Art Unit	
	Usmaan Saeed	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 19-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Receipt of Applicant's Amendment, filed on 11/30/2006 is acknowledged. Claims 1, 7, 10, 29, and 30 have been amended. Claim 18 has been cancelled.

Claim Objections

2. The amendments to claim 7 were received on 11/30/2006 and are acceptable to overcome the objections.

Double Patenting

3. The amendment to claim 18 was received on 11/30/2006 and is acceptable to overcome the rejection.

Claim Rejections - 35 USC § 101

4. The amendments to the claims were received on 11/30/2006 and are acceptable to overcome the 101 rejections.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-17, and 19-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Thompson et al**. (**Thompson** hereinafter) (U.S. Patent No. 6,668,253) in view of **William D. Norcott.** (**Norcott** hereinafter) (U.S. PG Pub No. 2003/0172091).

With respect to claim 1, Thompson teaches **a method for archiving task information obtained from a data-warehousing environment comprising steps of:**

"a. obtaining operational metadata from said data-warehousing environment" as updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4).

"b. extracting task information from said operational metadata" as process starts with extracting data from the operational systems (**Thompson** Col 1, Lines 46-47). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32).

"c. storing said extracted task information in a buffer" as loading the data is loaded into an appropriate temporary staging table (**Thompson** Col 4, Lines 34-35).

"d. refreshing said buffer with changes in said operational metadata" as the loading of information comprises one of: a round-robin approach used for refresh processing and extracting information from permanent tables (**Thompson** Col 4, Lines 56-59.)

"moving task information from said buffer to an archive" as staging server obtains data from the data source application via requests and places the data into temporary staging tables to prepare for the transformation and cleansing process prior to movement of the data to the data warehouse server (**Thompson** Abstract).

"said archived task information used in data analysis and mining" as FIG. 26 depicts aspects of metadata analysis according to embodiments of this invention (**Thompson** Figure 26).

Thompson teaches the elements of claim 1 as noted above but does not explicitly discloses, **"changes in operational metadata."**

However, **Norcott** discloses, **"changes in operational metadata"** as change set 220 comprises change table 221 and change table 223, which also correspond to respective tables (not shown) on the OLTP database 113. The information that defines the structure of the change sets 210, 220 and change tables 211, 213, 221, 223 is maintained in system metadata 230 (**Norcott** Paragraph 0030). The OP 237 column contains a code indicating the type of operation that resulted in the change data (**Norcott** Paragraph 0035).

Further, **Norcott** teaches **"said archived task information used in data analysis and mining"** as a "data warehouse," for the purpose of collecting, aggregating, and analyzing the information contained in the OLTP databases. Data warehouses can grow very large, ranging from gigabytes to many terabytes of data (trillions of bytes). The task of moving data from its original source in OLTP systems to the data warehouse is commonly referred to as data extraction, transport, and loading (ETL) (**Norcott** Paragraph 0005).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

Claim 30 is essentially the same as claim 1 except it set forth the claimed invention as an article of manufacture and is rejected for the same reasons as applied hereinabove.

With respect to claim 2, **Thompson** teaches **"a method for archiving task information, as per claim 1, wherein said task is an extract, transform, load (ETL) task"** as a data flow plan is a set of complex instructions used to extract, transform and load the data into the warehouse (**Thompson** Col 21, Lines 51-53).

Claims 11 and 31 are essentially the same as claim 2 except claim 31 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 3, **Thompson** teaches **"a method for archiving task information, as per claim 1, wherein said buffer is a staging table"** as loading the data is loaded into an appropriate temporary staging table (**Thompson** Col 4, Lines 34-35).

Claims 12; and 32 are essentially the same as claim 3 except claim 32 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 4, **Thompson** does not explicitly teach, **"changes in operational metadata are obtained via a trigger mechanism."**

However, **Norcott** teaches, **"changes in operational metadata are obtained via a trigger mechanism"** as conventional systems have used triggers for synchronous change data capture, either by using the CREATE triggers statement or by using an internal mechanism with equivalent functionality (**Norcott** Paragraph 0008).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data

capture system that can be transactionally consistent without a costly post processing phase. .

Claims 14 and 33 are essentially the same as claim 4 except claim 33 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 5, **Thompson** teaches **"a method for archiving task information, as per claim 2, wherein said ETL task information comprises any of: ETL task execution statuses, run identification numbers, definitions, control flows, and execution schedules"** as Load Completion date/time stamp: Provides the execution date and time of a Sagent's Data Flow Plan. Load Status: Provides the status of the plan whether it was completed or aborted (**Thompson** Col 33, Lines 44-48).

Claim 34 is essentially the same as claim 5 except it set forth the claimed invention as an article of manufacture and is rejected for the same reasons as applied hereinabove.

With respect to claim 6, **Thompson** teaches **"a method for archiving task information, as per claim 2, wherein said archive is queried to report any of: completed tasks, pending tasks, duration of execution, error codes and messages, scheduling problems, scheduling changes, overdue ETL task run**

schedules, and overdue ETL task misses" as Load Completion date/time stamp: Provides the execution date and time of a Sagent's Data Flow Plan. Load Status: Provides the status of the plan whether it was completed or aborted (**Thompson** Col 33, Lines 44-48).

Claims 22 and 35 are essentially the same as claim 6 except claim 35 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 7, **Thompson** teaches **"a method for archiving task information, as per claim 2, wherein content of said archive is extracted from and stored in one or more tables"** as (**Thompson** Col 2, Lines 30-60).

Claim 36 is essentially the same as claim 7 except it set forth the claimed invention as an article of manufacture and is rejected for the same reasons as applied hereinabove.

With respect to claim 8, **Thompson** teaches **"a method for archiving task information, as per claim 7, wherein said tables indicate any of: ETL task errors, completed tasks, task temporary status, and task scheduled"** as writing data with an error to an error table along with an error message describing a reason for rejection (**Thompson** Col 5, Lines 58-60 & Col 2, Lines 30-60).

Claims 27 and 37 are essentially the same as claim 8 except claim 37 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 9, **Thompson** teaches **"a method for archiving task information, as per claim 8, wherein said tables are queried to generate reports comprising any of: sequence of task executed in a process, last task executed, task or tasks failed, duration of execution of tasks in a process, task or tasks retried, and statistics associated with a task run or runs, errors associated with failed tasks, tasks failing with a specified error, task run schedule, de-scheduled tasks, and tasks having a specified temporary status"** as Load Completion date/time stamp: Provides the execution date and time of a Sagent's Data Flow Plan. Load Status: Provides the status of the plan whether it was completed or aborted (**Thompson** Col 33, Lines 44-48).

Claims 28 and 38 are essentially the same as claim 9 except claim 38 set forth the claimed invention as an article of manufacture and are rejected for the same reasons as applied hereinabove.

With respect to claim 10, **Thompson** teaches **"a method for capturing and recording task information obtained from a data-warehousing environment for analysis, archival and mining comprising steps of:**

"a. uniquely identifying each task within a run" as EIM includes data extraction and movement, data transformation and cleansing, database update and tuning, and database access (**Thompson** Col 2, Lines 2-4). Updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4).

"b. selecting one or more of said uniquely identified tasks to monitor" as updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4).

"c. capturing data-warehousing population activities dynamically by

i. obtaining operational metadata containing task information relevant to said selected task or tasks" as updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4). Process starts with extracting data from the operational systems (**Thompson** Col 1, Lines 46-47). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32).

"iii. storing results of said calculating step in a buffer, and moving selected buffer data to an archive" as staging server obtains data from the data source application via requests and places the data into temporary staging

tables to prepare for the transformation and cleansing process prior to movement of the data to the data warehouse server (**Thompson** Abstract).

"said archive used in data analysis and mining" as FIG. 26 depicts aspects of metadata analysis according to embodiments of this invention (**Thompson** Figure 26).

Thompson teaches the elements of claim 10 as noted above but does not explicitly discloses, **"ii. calculating changes in operational metadata."**

However, **Norcott** discloses, **"ii. calculating changes in operational metadata"** as change set 220 comprises change table 221 and change table 223, which also correspond to respective tables (not shown) on the OLTP database 113. The information that defines the structure of the change sets 210, 220 and change tables 211, 213, 221, 223 is maintained in system metadata 230 (**Norcott** Paragraph 0030). The OP 237 column contains a code indicating the type of operation that resulted in the change data (**Norcott** Paragraph 0035).

Further, **Norcott** teaches **"said archive used in data analysis and mining"** as a "data warehouse," for the purpose of collecting, aggregating, and analyzing the information contained in the OLTP databases. Data warehouses can grow very large, ranging from gigabytes to many terabytes of data (trillions of bytes). The task of moving data from its original source in OLTP systems to the data warehouse is commonly referred to as data extraction, transport, and loading (ETL) (**Norcott** Paragraph 0005).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data

capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 13, **Thompson** teaches, **"a method for capturing and recording task information, as per claim 10, wherein either one of a system or a user performs said selecting step"** as the user interface (UI) may comprise a task list, buttons/controls for launching components of the system; and a content area for task related data and output (Thompson Col 3, Lines 66-67 & Col 4, Line 1).

With respect to claim 15, **Thompson** teaches **"operational metadata and to said buffer"** as retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32). Loading the data is loaded into an appropriate temporary staging table (**Thompson** Col 4, Lines 34-35).

Thompson teaches the elements of claim 15 as noted above but does not explicitly discloses **"attachment of trigger mechanism."**

However, **Norcott** discloses **"attachment of trigger mechanism"** as triggers 115 are employed to implement a synchronous change data capture mechanism (**Norcott** Paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data

capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 16, **Thompson** teaches **"selected task in said operational metadata"** as updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32).

Thompson teaches the elements of claim 16 as noted above but does not explicitly disclose, **"wherein said trigger mechanism attached to operational metadata is activated by changes."**

However, **Norcott** discloses, **"wherein said trigger mechanism attached to operational metadata is activated by changes"** as triggers 115 are employed to implement a synchronous change data capture mechanism (**Norcott** Paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 17, **Thompson** teaches **"a method for capturing and recording task information, as per claim 15, whereupon termination of said**

selected task; said task status information is extracted from said operational metadata, if said selected task terminates with a failure or warning status, then error messages associated with said selected task or tasks are also extracted from said operational metadata, and said extracted task information is transformed into a format necessary for storage in said buffer" as process starts with extracting data from the operational systems (**Thompson** Col 1, Lines 46-47). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32). Capturing error data (**Thompson** Col 24, Line 8). Load Data Formatting Error Tables--During the Sagent load procedures, insert rows of information into data format error tables with identified format issues (**Thompson** Col 24, Lines 18-20). Loading the data is loaded into an appropriate temporary staging table (**Thompson** Col 4, Lines 34-35).

With respect to claim 19, **Thompson** teaches **a method for capturing and recording task information, as per claim 17, wherein upon termination of said selected task:**

"b. said buffer is refreshed with changes in said operational metadata before said trigger mechanism was activated" as the loading of information comprises one of: a round-robin approach used for refresh processing and extracting information from permanent tables (**Thompson** Col 4, Lines 56-59).

"c. said archive is emptied into a backup medium or media, and said buffer data relevant to said selected task is moved from said buffer to said archive" as

staging server obtains data from the data source application via requests and places the data into temporary staging tables to prepare for the transformation and cleansing process prior to movement of the data to the data warehouse server (**Thompson** Abstract).

Thompson teaches the elements of claim 19 as noted above but does not explicitly disclose, **"a. said trigger mechanism attached to said operational metadata is activated."**

However, **Norcott** discloses, **"a. said trigger mechanism attached to said operational metadata is activated"** as triggers 115 are employed to implement a synchronous change data capture mechanism (**Norcott** Paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 20, **Thompson** does not explicitly teach **"the granularity of data moved from said buffer to said archive is variable."**

However, **Norcott** discloses **"the granularity of data moved from said buffer to said archive is variable"** as main memory 405 can also be used for storing temporary variables or other intermediate information during execution of instructions to be executed by the processor 403 (**Norcott** Paragraph 0064).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 21, **Thompson** teaches, **"refresh operations on said buffer"** as the loading of information comprises one of: a round-robin approach used for refresh processing and extracting information from permanent tables (**Thompson** Col 4, Lines 56-59).

Thompson teaches the elements of claim 21 as noted above but does not explicitly disclose, **"the activation of said trigger mechanisms attached to said operational metadata."**

However, **Norcott** discloses, **"the activation of said trigger mechanisms attached to said operational metadata"** as triggers 115 are employed to implement a synchronous change data capture mechanism (**Norcott** Paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

With respect to claim 23, **Thompson** teaches **"a method for capturing and recording task information, as per claim 18, wherein said backup step comprises: selecting archive data to backup, backing up said selected archive data, extracting said selected archive data from said archive, filtering said selected archive data from said archive, and moving to a table said filtered archive data"** as backup frequency and procedures: Daily as part of a full system backup using the full FGIS backup solution (**Thompson** Col 15, Lines 13-16). The loading of information comprises one of: a round-robin approach used for refresh processing and extracting information from permanent tables (**Thompson** Col 4, Lines 56-59). EIM provides the ability to create user definable parameters for querying the data warehouse and filtering information (**Thompson** Col 10, Lines 1-3).

With respect to claim 24, **Thompson** teaches **"a method for capturing and recording task information, as per claim 18, wherein said archive is backed up at configured intervals"** as backup frequency and procedures: Daily as part of a full system backup using the full FGIS backup solution (**Thompson** Col 15, Lines 13-16).

With respect to claim 25, **Thompson** teaches **"a method for capturing and recording task information, as per claim 19, wherein said buffer data to be backed up is associated with a current timestamp"** as Load Completion date/time stamp: Provides the execution date and time of a Sagent's Data Flow Plan. Load Status:

Provides the status of the plan whether it was completed or aborted (**Thompson** Col 33, Lines 44-48).

With respect to claim 26, **Thompson** teaches **"a method for capturing and recording task information, as per claim 25, wherein said current timestamp is utilized in backup restoration"** as Load Completion date/time stamp: Provides the execution date and time of a Sagent's Data Flow Plan (**Thompson** Col 33, Lines 44-48).

With respect to claim 29, **Thompson** teaches **a data-warehousing environment system for capturing and recording task information, said data warehousing environment implemented in computer storage, said computer storage storing:**

"a. task information extracted from operational metadata" as updating load statistics metadata on the data warehouse server, indicating that the information is in a "loading" state (**Thompson** Col 5, Lines 2-4). Process starts with extracting data from the operational systems (**Thompson** Col 1, Lines 46-47). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32).

"c. staging table storing said task information" as loading the data is loaded into an appropriate temporary staging table (**Thompson** Col 4, Lines 34-35).

"e. an archive table storing task information from said staging table" as staging server obtains data from the data source application via requests and places the

data into temporary staging tables to prepare for the transformation and cleansing process prior to movement of the data to the data warehouse server (**Thompson** Abstract).

Thompson teaches the elements of claim 29 as noted above but does not explicitly disclose, **"Attachment of the trigger mechanism."**

However, **Norcott** discloses, **"Attachment of the trigger mechanism."** as triggers 115 are employed to implement a synchronous change data capture mechanism (**Norcott** Paragraph 0027).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

Response to Arguments

6. Applicant's arguments filed 11/30/2006 have been fully considered but they are not persuasive. A detailed discussion is set forth herein below.

Applicant argues that applicant is unsure how the examiner is interpreting claim limitations and that **Thompson and Norcott** do not teaches the limitations reciting

"storing said extracted task information in a buffer" and "moving this information from said buffer to an archive."

In response to the preceding argument, Examiner respectfully submits that **Thompson** teaches a process that starts with the extracting data from the operational systems (**Thompson** Col 1, Lines 46-47). Retrieving operational data from data sources application using a data flow plan (**Thompson** Col 4, Lines 31-32).

After the data is being extracted **Thompson** teaches **"storing said extracted task information in a buffer"** as being stored/loaded into an appropriate temporary staging table/buffer (**Thompson** Col 4, Lines 34-35).

Thompson teaches **"moving this information from said buffer to an archive"** as staging server obtains data from the data source application via requests and places the data into temporary staging tables to prepare for the transformation and cleansing process prior to movement of the data to the data warehouse server (**Thompson** Abstract). Therefore the data is being archived in the data warehouse server/archive from staging table/buffer, which was extracted from an operational metadata.

Further applicant argues that **Thompson** does not teach **"refreshing said buffer with changes in said operational metadata."**

In response to the preceding argument, Examiner respectfully submits that **Thompson** teaches **"refreshing said buffer with changes in said operational metadata"** as the loading of information comprises one of: a round-robin approach

used for refresh processing and extracting information from permanent tables (**Thompson** Col 4, Lines 56-59, Col 4, Lines 64-67, Col 5, Lines 1-14).

Further, **Thompson** teaches refreshed data may use normalized temporary tables (**Thompson** Col 16, Lines 60-67 & Col 17, Lines 28-32).

Thompson teaches the elements of claim 1 as noted above but does not explicitly discloses, **"changes in operational metadata."**

However, **Norcott** discloses, **"changes in operational metadata"** as change set 220 comprises change table 221 and change table 223, which also correspond to respective tables (not shown) on the OLTP database 113. The information that defines the structure of the change sets 210, 220 and change tables 211, 213, 221, 223 is maintained in system metadata 230 (**Norcott** Paragraph 0030). The OP 237 column contains a code indicating the type of operation that resulted in the change data (**Norcott** Paragraph 0035).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of the cited references because **Norcott's** teachings would have allowed **Thompson** to provide a synchronous change data capture system that can be transactionally consistent without a costly post processing phase.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usmaan Saeed whose telephone number is (571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Usmaan Saeed
Patent Examiner
Art Unit: 2166

Leslie Wong
Primary Examiner

US
February 27, 2007

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER